



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,502	02/23/2005	Hiroshi Mimura	1009682-000144	7858

21839 7590 10/28/2009  
BUCHANAN, INGERSOLL & ROONEY PC  
POST OFFICE BOX 1404  
ALEXANDRIA, VA 22313-1404

EXAMINER
----------

REYNOLDS, STEVEN ALAN

ART UNIT	PAPER NUMBER
----------	--------------

3728

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

10/28/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/525,502	MIMURA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Steven Reynolds	3728	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 8,10,11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8,10,11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This office action is in response to the reply filed on 8/13/2009, wherein claims 8, 10, 11 and 14 were amended. Claims 8, 10, 11 and 13-17 are pending.

#### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 6,732,877) in view of Ejima et al. (US 6,032,802). Wu discloses a substrate storage container including: a container body (8) of a front-opening box for storing substrates therein; a door (82) for opening and closing the front of the container body; an attachment hole (80) formed in at least one of the container body and the door; and an inner-pressure adjustment device (air vent plug arrangement – See Fig. 2) attached to the attachment hole for adjusting the pressure inside the container body closed with the door, wherein the inner-pressure adjustment device comprises an attachment cylinder (cylinder formed from 12 and 41) formed in cylindrical shape having a first opening (opening at edge 10) at one end face and a second opening (opening at 43) smaller than the first opening at an other end face, a hollow filter support structure (2/42) fitted into the attachment cylinder without any gap in the axial direction of the attachment cylinder from the first opening (See Fig. 3) and a filter (5) held inside the filter support structure; wherein the filter support structure is composed of a pair of

Art Unit: 3728

support pieces (2 and 42) arranged opposite to and attached to each other, each of said pair of support pieces having an approximately T-shaped section (the bottom portion of element 2, which comprises portions 221 and 223, is considered to be T-shaped; and element 42 in combination with surface 43 is considered to be T-shaped). Wu discloses the claimed invention except for the specific material of the attachment cylinder, the attachment cylinder being removable, and the pair of juxtaposed flanges on the attachment cylinder.

Regarding the specific material of the attachment cylinder, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have formed the attachment cylinder from any material such as plastic (which can be considered to be elastic due to its material properties) in order to have the desired strength. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding the attachment cylinder being removable and having a pair of juxtaposed flanges, Ejima teaches a substrate storage container comprising a removable filter assembly (41 – See Fig. 6) including a pair of juxtaposed flanges (43) integrally formed on an outer periphery thereof for the purpose of removably attaching the filter assembly to an opening (46) by elastic deformation. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the permanent engagement means (i.e. edge 10 being fixedly fastened to the air vent 80 by ultrasonic welding) of Wu with the engagement means (elastically

Art Unit: 3728

deformable flanges 43) as taught by Ejima in order to allow for the inner-pressure adjustment device to be removable so it can be replaced if necessary. Depending on the tightness of the seal formed by the connection of the attachment cylinder to the attachment hole, no O-ring (or equivalent structure) would be needed to seal the device.

Regarding claims 10 and 11, Wu-Ejima discloses a guide rib (rib surrounding hole 89 – See Fig. 2) for the inner-pressure adjustment device is formed near the attachment hole; and each supporting piece having an approximately cylindrical form, and the opposing parts of the supporting pieces are extended outwards with respect to the width direction, forming filter holders.

4. Claims 13 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 6,732,877) in view of Ejima et al. (US 6,032,802) as applied to claim 8 above, and further in view of Yamamoto (US 5,960,960). As described above, Wu-Ejima discloses the claimed invention except is silent about the specifics of the shelf elements on the interior sides of the container body. However, Yamamoto teaches a substrate storage container comprising shelf elements which include a part of the substrate contact area of each shelf element that is formed with a low-frictional resistance portion (203 – See column 3, lines 5-9) for the purpose of allowing the substrate to be easily removed from the shelf elements. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the shelf elements of Wu to include a low-frictional resistance portion as taught

Art Unit: 3728

by Yamamoto in order to allow the substrates to slide into the shelf elements smoothly and to be removed more easily.

Regarding claim 17, Wu-Ejima-Yamamoto discloses the claimed invention except is silent the specifics of the low-frictional resistance portion of the shelf elements. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the low-frictional resistance portions from a material having any roughness including 0.2a or above in order to allow the substrates to be smoothly inserted/removed. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 6,732,877) in view of Ejima et al. (US 6,032,802) as applied to claim 8 above, and further in view of Nyseth (US 5,586,658). As described above, Wu-Ejima discloses the claimed invention except is silent about the specifics of the interior backside of the container. However, Nyseth teaches a substrate container comprising a backside (interior surface of 18 - See Fig. 3 and Fig. 8) which includes grooves (grooves 115 on row 101 - See Figs. 2 and 8) with a sectional shape configured to be asymmetrical with respect to the substrate, and a lean constraint element (the grooves on row 102 can be considered lean constraint elements as they keep the substrate from leaning once the substrate is in the groove), in order to hold the substrate in place in the container. Therefore, it would have been obvious to one of ordinary skill in the art at the time the

Art Unit: 3728

invention was made to have provided the interior backside of the container of Wu-Ejima with grooves and lean constraint elements as taught by Nyseth in order to better hold the substrates in place within the container.

6. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 6,732,877) in view of Yamamoto (US 5,960,960). Wu discloses a substrate storage container including: a container body (8) of a front-opening box for storing substrates therein; a door (82) for opening and closing the front of the container body; and an inner-pressure adjustment device (air vent plug arrangement – See Fig. 2) attached to, at least, one of the container body and the door, for adjusting the pressure inside the container body closed with the door. Wu discloses the claimed invention except is silent about the specifics of the shelf elements on the interior sides of the container body.

However, Yamamoto teaches a substrate storage container comprising shelf elements which include a part of the substrate contact area of each shelf element that is formed with a low-frictional resistance portion (203 – See column 3, lines 5-9) for the purpose of allowing the substrate to be easily removed from the shelf elements.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the shelf elements of Wu to include a low-frictional resistance portion as taught by Yamamoto in order to allow the substrates to slide into the shelf elements smoothly and to be removed more easily.

Wu-Yamamoto discloses the claimed invention except is silent the specifics of the low-frictional resistance portion of the shelf elements. It would have been obvious to

Art Unit: 3728

one having ordinary skill in the art at the time the invention was made to have made the low-frictional resistance portions from a material having any roughness including 0.2a or above in order to allow the substrates to be smoothly inserted/removed. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Wu-Yamamoto discloses the general conditions of the claimed invention except for the express disclosure of the specific frictional resistance. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the low-frictional resistance portions from a material that would have a frictional resistance within the range of 0.15 N to 0.25 N, since the claimed values are merely an optimum or workable range. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al. (US 6,732,877) in view of Yamamoto (US 5,960,960) as applied to claim 14 above, and further in view of Nyseth (US 5,586,658). As described above, Wu-Yamamoto discloses the claimed invention except is silent about the specifics of the interior backside of the container. However, Nyseth teaches a substrate container comprising a backside (interior surface of 18 - See Fig. 3 and Fig. 8) which includes grooves (115) with a sectional shape configured to be asymmetrical with respect to the substrate in order to



Art Unit: 3728

hold the substrate in place in the container. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the interior backside of the container of Wu-Yamamoto with grooves as taught by Nyseth in order to better hold the substrates in place within the container.

### ***Response to Arguments***

8. Applicant's arguments filed 8/13/2009 have been fully considered but they are not persuasive. Applicant argues that there is no elastic deformation of the cylindrical body as Ejima discloses a filter arrangement wherein the filter arrangement is inserted into the opening 26, then rotated into place. Contrary to Applicant's argument, as shown in Fig. 6, Ejima discloses a removable filter assembly (41) including elastically deformable flanges (43) integrally formed on an outer periphery thereof for the purpose of removably attaching the filter assembly to an opening (46). In modifying the attachment cylinder of Wu with the elastically deformable flanges would allow the attachment cylinder to be removable from the container if desired. An O-ring (or equivalent element) would not be necessary depending on the tightness of the seal formed by the connection of the attachment cylinder to the attachment hole.

Applicant argues that there is no evidence in Wu or Yamamoto that the range of the frictional resistance generated when a substrate is moved horizontally on the low-frictional resistance portion of within 0.15N to 0.25N. Even though Wu/Yamamoto are silent about the specifics of the low-frictional resistance portion of the shelf elements. It would have been obvious to one having ordinary skill in the art at the time the invention

Art Unit: 3728

was made to have made the low-frictional resistance portions from a material having any roughness including 0.2a or above in order to allow the substrates to be smoothly inserted/removed. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

### ***Conclusion***

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Reynolds whose telephone number is (571)272-9959. The examiner can normally be reached on Monday-Friday 9:30am - 4:30pm.

Art Unit: 3728

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mickey Yu can be reached on (571)272-4562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. R./  
Examiner, Art Unit 3728

/Mickey Yu/  
Supervisory Patent Examiner, Art  
Unit 3728